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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,836	01/29/2004	Ako Shose	520.43433X00	2345

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EXAMINER

KHOLDEBARIN, IMAN K

ART UNIT	PAPER NUMBER
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3737

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/765,836

Applicant(s)

SHOSE ET AL.

Examiner

I Kenneth Kholdebarin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: 10/13/2004 and 01/29/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1 –10 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Quaid et al. 20040106916

Re Claim 1: Quaid discloses a surgical operation assistance (11) comprising an image pick up device (14) and an image-producing unit (10) an input unit (34) for inputting the reference point.

A surgical operation route calculation unit (within the device 10, See [0103]) an image-processing unit for image and the route (36) an image-displaying unit (30) for displaying the images processed (See Fig. 1).

Re Claim 2: Quaid disclose the surgical operation assistance system further comprising an image extracting unit for extracting a partial of image and having the processor for processing the image (See Fig. 12 and [0116]).

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Re Claim 3 and 5: Quaid disclose that the surgical operation assistance system are capable of displaying a slice image arbitrary line unit for designating an arbitrary line of a sliced image to be displayed, although he argues that this feature require the surgeon to focus his visual attention away from the surgical field (See [0005]).

Re Claim 4 and 6: Quaid discloses the surgical operation assistance system comprises of a robot (113) for automatically conduct the surgical operation (See [0007]).

Re Claim 7 and 8: Quaid discloses the surgical operation assistance system comprising an image pick up device (14) a surgical position detector (Quaid discloses that the heptic device in an impedance mode will measure or senses the pose of the surgical instrument) to be integrated with the image picked up, an image producing unit (10 a) a reference point inputting unit (34) a surgical route calculating unit (10 b) an image processing unit (36) an image displaying apparatus (30) for displaying the image processed in said image processing unit. Quaid added that these features would allow the surgeon to perform the operation remotely as well that shows the robot is capable of operate in two different mode exchangeable between the automatic and the manual operation thereof (See [0030]).

Re Claim 9 and 10: Quaid discloses the method of surgical operation assisting comprising the following steps: Picking up an image of a surgical field (by using camera 14) conducting surgical operation upon surgical field (using robot 113) integrating postion information of surgical operation robot with thh image of the surgical filed (step142) producing an image (using computer 10) inputting reference points of a surgical operation route (144 and using input device

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34) calculating a smooth route (146) processing the image and the route of surgery (using computer 36) and displaying the image (applying image and display the image on device 30) (See fig. 1 and Fig. 3C, [0064-0065]).

Re claim 12: Quaid disclose a system that contains a program called (CAS) stored on a computer readable storage medium (system 11 of Fig. 1) to perform the following steps of picking up an image of a surgical field a step for producing a stereographic image of the surgical field an inputting reference points of surgical operation, a step for calculating a smooth surgical route to avoid the obstacle and a step for processing the image and finally to displaying the images processed [0042].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Re Claim 11: Quaid teaches the surgical operation assisting method wherein the image of the surgical field is taken by the image pick up device using the markers to determine the orientation of various traceable objects such as instruments tools and patients with respect to a three-dimensional coordinate frame of reference (See [0040]). Quaid does not teach the use of matrix of 3x3 to overlap the coordinates of the marker with the coordinate of the patient. But it is

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obvious to one ordinary skilled in the art at the time of the invention was made that a 3x3 matrix is not necessary to develop a three-dimensional image and it is clear that the markers will have different coordinate than the patients.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tajima disclose surgical operation apparatus; Shose discloses Surgical operation assistance system and surgical operation assisting method; Tepper discloses Ultrasound tracking device, system and method for intrabody guiding procedures; Ghodoussi discloses Tele-medicine system that transmits an entire state of a subsystem. Wang discloses Minimally invasive surgical training using robotics and tele-collaboration.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to I Kenneth Kholdebarin whose telephone number is 571-270-1347. The examiner can normally be reached on M-F 8 AM- 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IKK

Iman Kenneth Kholdebarin

March 30, 2007



ELENI MANTIS MERCADER
SUPERVISORY PATENT EXAMINER